

CALIFORNIA DIVISION OF MINES AND GEOLOGY

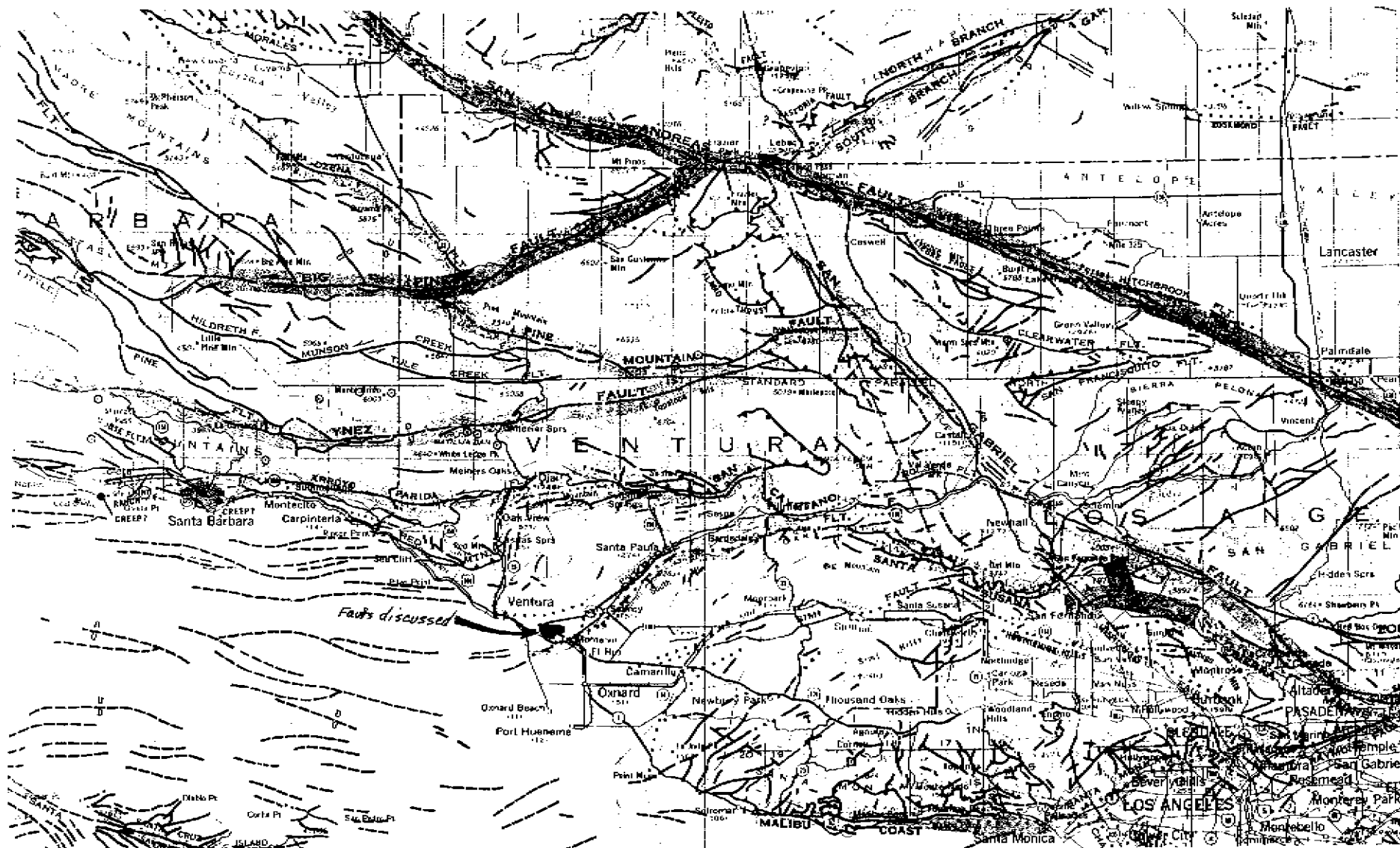
Fault Evaluation Report FER-47

October 19, 1977

1. Name of fault: Unnamed faults in the Montalvo Mounds area.
2. Location of faults: Saticoy and Oxnard 7.5 minute quadrangles, Ventura County.
3. Reason for evaluation: Part of a ten-year program.
4. List of references:
  - a) Cilweck, B.A., October 19, 1976, Personal communication.
  - b) Hall, Ed, September 1977, Personal communication regarding data in Hall's files.
  - c) Jennings, C.W., 1975, Fault map of California with locations of volcanoes, thermal springs, and thermal wells: California Division of Mines and Geology, California Geologic Data Map Series, Map no. 1, scale 1:750,000.
  - d) Weber, R.H., Jr., Kiessling, E.W., Sprotte, E.C., Johnson, J.A., Sherburne, R.W., and Cleveland, G.B., 1975, Seismic hazards study of Ventura County, California: California Division of Mines and Geology, Open File Report 76-5LA, 396 p., 9 plates, map scale 1:48,000.
  - e) Yeats, R.S., 30 June 1977, Subsurface evidence of faulting in the Ventura Basin, Transverse Ranges: Unpublished talk given as an U.S. Geological Survey Seminar, Menlo Park.
  - f) Ziony, J.I., Wentworth, C.M., Buchanan-Banks, J.M., and Wagner, H.C., 1974, Preliminary map showing recency of faulting in coastal southern California: U.S. Geological Survey, Miscellaneous

# FAULT EVALUATION REPORT 47

FIGURE 1. General location of unnamed faults in the Montalvo Mounds area discussed in this report (Jennings, 1975, scale 1:750,000).



Field Studies Map MF-585, 15 p., map scale 1:250,000, 3 pl.

5. Summary of available data:

There are two faults, or zones of faults, near Montalvo. Both of these faults trend WNW, are located about one-half mile from one another, and have similar senses of displacement (north block up) (Weber, et al., 1975). Both are steeply-dipping, near vertical faults.

An excavation for an office building across the westernmost fault revealed displacements of 5 to 6 feet within older alluvium (Gilweck, 1976; Hall, 1977)\*. The alluvium was tilted to about 35° (trend unknown). Yeats (1977), and Hall (1977) noted that 20 feet of sediments above these faults were unaffected by faulting. Yeats concluded that this displacement occurred during the late Pleistocene, and may in some way <sup>(secondary faulting?)</sup> be related to the Oak Ridge fault (see FER-54).

6. Interpretation of air photos: Not attempted.

7. Field observations:

On August 1, 1977, I attempted to examine the features along both trends near Montalvo. The building referred to in item 5 has already been built, thus the actual offsets were not observable. No road cuts are present across either trend.

The Montalvo Mounds\*\* could be a topographic feature created by faulting; however, there was no evidence of any Holocene fault features. The slopes of the fans covering the surrounding area is about two percent south, but the southern edges of the Mounds -- along which the faults are supposed to be -- slope 18 percent south (southern mound) and 22 percent south (northern mound).

\*No consulting report discussing these features exists.

\*\*The Mounds appear to be older alluvial deposits which were uplifted; the Harmon Fan (discussed in FER-13), a Holocene Fan, appears to be draped ~~over~~ around the Mounds. The sediments uncut by the faults (see item 5) are not part of Harmon Fan, but are part of the Mounds deposits (older?).

## 8. Conclusions:

At least one of the two postulated fault trends can actually be attributed to faulting. The other trend (the easternmost) has not been adequately investigated; however, it is similar in most respects to the former and is probably a fault or fault zone.

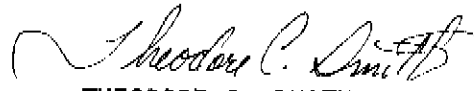
At least one of these faults (the westernmost) appears to be pre-Holocene in age; however, the precise age of the overlying materials is not known with certainty. Both of these faults, if both exist, probably have had displacement(s) occur on them during the late Quaternary.

At least one of the faults has been located within about 20 feet of the surface, and may be considered well-defined, or at least locatable at an investigated site (Cilweck, 1976; Hall, 1977; and Yeats, 1977).

## 9. Recommendations:

Based on the present project guidelines and the information summarized herein, zoning of these two faults trends is not recommended at this time. Further work without trenching would probably yield insufficient information, and is therefore not recommended. The possibility exists that the northernmost fault trend could be Holocene. Should time and funds permit, this trend could be trenched in order to gather more information.

## 10. Investigating geologist's name; date:

  
THEODORE C. SMITH  
Assistant Geologist  
October 19, 1977

*I concur with recommendations, except I would place a low priority on additional work (faults identified only in excavation and apparently are not well-defined enough to warrant trenching at this time).*

*ELH  
10/25/77*